



DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2022-0385; Project Identifier MCAI-2021-00786-E]

RIN 2120-AA64

Airworthiness Directives; GE Aviation Czech s.r.o. (Type Certificate previously held by WALTER Engines a.s., Walter a.s., and MOTORLET a.s.) Turboprop Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: The FAA proposes to adopt a new airworthiness directive (AD) for certain GE Aviation Czech s.r.o. (GEAC) M601D-11, M601E-11, M601E-11A, M601E-11AS, M601E-11S, and M601F model turboprop engines. This proposed AD was prompted by the absence of life limits for propeller shaft part number (P/N) M601-6081.6 in the airworthiness limitation section of the applicable GEAC M601 Engine Shop Manual. This AD was also prompted by a report that operators may not have been provided with enough data to determine the accumulated life of certain propeller shafts. For M601F model turboprop engines, this proposed AD would require removal and replacement of the propeller shaft before the propeller shaft accumulates 12,000 flight hours (FHs) since first installation on an engine, or before accumulating 350 FHs after the effective date of this AD, whichever occurs later, with a part eligible for installation. For M601D-11, M601E-11, M601E-11A, M601E-11AS, and M601E-11S model turboprop engines, this proposed AD would require calculation of the accumulated life of the propeller shaft and, depending on the number of accumulated FHs removal and replacement of the propeller shaft with a part eligible for installation. The FAA is proposing this AD to address the unsafe condition on these products.

DATES: The FAA must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <https://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: (202) 493-2251.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.
- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this NPRM, contact GE Aviation Czech s.r.o., Beranových 65, 199 02 Praha 9, Letňany, Czech Republic; phone: +420 222 538 111. You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 1200 District Avenue, Burlington, MA 01803. For information on the availability of this material at the FAA, call (817) 222-5110.

Examining the AD Docket

You may examine the AD docket at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2022-0385; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this NPRM, the mandatory continuing airworthiness information (MCAI), any comments received, and other information. The street address for Docket Operations is listed above.

FOR FURTHER INFORMATION CONTACT: Barbara Caufield, Aviation Safety Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA 01803; phone: (781) 238-7146; email: barbara.caufield@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

The FAA invites you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under ADDRESSES. Include “Docket No. FAA-2022-0385; Project Identifier MCAI-2021-00786-E” at the beginning

of your comments. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. The FAA will consider all comments received by the closing date and may amend this proposal because of those comments.

Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in 14 CFR 11.35, the FAA will post all comments received, without change, to <https://www.regulations.gov>, including any personal information you provide. The agency will also post a report summarizing each substantive verbal contact received about this NPRM.

Confidential Business Information

CBI is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to this NPRM contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this NPRM, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as “PROPIN.” The FAA will treat such marked submissions as confidential under the FOIA, and they will not be placed in the public docket of this NPRM. Submissions containing CBI should be sent to Barbara Caufield, Aviation Safety Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA 01803. Any commentary that the FAA receives which is not specifically designated as CBI will be placed in the public docket for this rulemaking.

Background

The European Union Aviation Safety Agency (EASA), which is the Technical Agent for the Member States of the European Union, has issued EASA AD 2021-0154, dated July 1, 2021 (referred to after this as “the MCAI”), to address the unsafe condition on these products. The MCAI states:

It has been determined that the life limit for the propeller shaft P/N M601-6081.6 is not published in the applicable ALS for M601 engines. In addition, it has also been reported that some data, which can be used to

determine the accumulated life of certain propeller shafts, may have not been provided to operators, so the propeller shaft life limit may not have been implemented correctly.

These conditions, if not corrected, may lead to failure of a propeller shaft, possibly resulting in detachment of the propeller and consequent damage to the engine and/or the aircraft, and reduced control of the aeroplane.

To address this potential unsafe condition, GEAC issued the original issue of the ASB, providing applicable instructions, and EASA issued AD 2021-0052 to require implementation of the applicable life limit and replacing each propeller shaft with a serviceable propeller shaft.

Since that [EASA] AD was issued, additional data, which can be used to determine the accumulated life of certain propeller shafts, and to support an extended compliance time for Group 1 engines, has been made available; GEAC revised accordingly the ASB (now at revision 02).

For the reasons described above, this [EASA] AD partially retains the requirements of EASA AD 2021-0052, which is superseded, introducing updated affected population and different compliance times.

You may obtain further information by examining the MCAI in the AD docket at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2022-0385.

FAA's Determination

This product has been approved by the aviation authority of another country, and is approved for operation in the United States. Pursuant to the FAA's bilateral agreement with the State of Design Authority, the FAA has been notified of the unsafe condition described in the EASA AD. The FAA is issuing this AD after determining that the unsafe condition described previously is likely to exist or develop in other products of the same type design.

Related Service Information under 1 CFR Part 51

The FAA reviewed GE Aviation Czech Alert Service Bulletin (ASB) ASB-M601F-72-10-00-0056 [02], ASB-M601D-72-10-00-0072 [02], ASB-M601E-72-10-00-0103 [02], and ASB-M601Z-72-10-00-0056 [02] (single document; formatted as service

bulletin identifier [revision number]), dated May 31, 2021. This ASB specifies procedures for calculating the accumulated life of certain propeller shafts. This ASB also specifies procedures for replacing certain propeller shafts. This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in ADDRESSES.

Proposed AD Requirements in this NPRM

For M601F model turboprop engines, this proposed AD would require removal and replacement of the propeller shaft with a part eligible for installation before the propeller shaft accumulates 12,000 FHs since first installation on an engine, or before accumulating 350 FHs after the effective date of this AD, whichever occurs later. For M601D-11, M601E-11, M601E-11A, M601E-11AS, and M601E-11S model turboprop engines, this proposed AD would require calculation of the accumulated life of the propeller shaft and, depending on the number of accumulated FHs, removal and replacement of the propeller shaft with a part eligible for installation.

Differences Between This Proposed AD and the MCAI

EASA AD 2021-0154, dated July 1, 2021, applies to M601D, M601D-1, M601D-2, M601D-11, M601D-11NZ, M601E, M601E-11, M601E-11A, M601E-11AS, M601E-11S, M601E-21, M601F, M601F-11, M601F-22, M601F-32, M601FS, M601T, and M601Z model turboprop engines. This AD does not include M601D, M601D-1, M601D-2, M601D-11NZ, M601E, M601E-21, M601F-11, M601F-22, M601F-32, M601FS, M601T, and M601Z model turboprop engines as these engine models are not type certificated in the United States.

Costs of Compliance

The FAA estimates that this AD, if adopted as proposed, would affect 14 engines installed on airplanes of U.S. registry. The FAA estimates that 7 M601D-11, and 7 M601E-11 model turboprop engines installed on airplanes of U.S. registry would require calculation of the time since new (TSN) of the propeller shaft and removal and replacement of the propeller shaft. The FAA estimates that zero M601E-11A, M601E-11AS, M601E-11S, and M601F model turboprop engines installed on airplanes of U.S. registry would require replacement of the propeller shaft.

The FAA estimates the following costs to comply with this proposed AD:

Estimated costs

Action	Labor Cost	Parts Cost	Cost per product	Cost on U.S. operators
Calculate the total TSN of the propeller shaft	1 work-hour x \$85 per hour = \$85	\$0	\$85	\$1,190
Remove and replace the propeller shaft	105 work-hours x \$85 per hour = \$8,925	\$17,827	\$26,752	\$374,528

The FAA has included all known costs in its cost estimate. According to the manufacturer, however, some of the costs of this proposed AD may be covered under warranty, thereby reducing the cost impact on affected operators.

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

The FAA determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Would not affect intrastate aviation in Alaska, and
- (3) Would not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by adding the following new airworthiness directive:

GE Aviation Czech s.r.o. (Type Certificate previously held by WALTER Engines a.s., Walter a.s., and MOTORLET a.s.): Docket No. FAA-2022-0385; Project Identifier MCAI-2021-00786-E.

(a) Comments Due Date

The FAA must receive comments on this airworthiness directive (AD) by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

This AD applies to:

- (1) GE Aviation Czech s.r.o. (GEAC) M601F model turboprop engines with an engine serial number (ESN) listed in Attachment 1, List of Affected Engines - Group 1, of GE Aviation Czech Alert Service Bulletin (ASB) ASB-M601F-72-10-00-0056 [02], ASB-M601D-72-10-00-0072 [02], ASB-M601E-72-10-00-0103 [02], and ASB-M601Z-

72-10-00-0056 [02] (single document; formatted as service bulletin identifier [revision number]), dated May 31, 2021 (the ASB);

(2) M601E-11 and M601E-11A model turboprop engines with an ESN listed in Attachment 2, List of Affected Parts - Group 2, of the ASB; and

(3) M601D-11, M601E-11AS, and M601E-11S model turboprop engines with propeller shaft P/N M601-6081.2 or P/N M601-6081.4.

(d) Subject

Joint Aircraft System Component (JASC) Code 7210, Turbine Engine Reduction Gear.

(e) Unsafe Condition

This AD was prompted by the absence of life limits for propeller shaft part number (P/N) M601-6081.6 in the airworthiness limitation section of the applicable GEAC M601 Engine Shop Manual. This AD was also prompted by a report that operators may not have been provided with enough data to determine the accumulated life of certain propeller shafts. The FAA is issuing this AD to prevent the failure of the propeller shaft. The unsafe condition, if not addressed, could result in damage to the engine, damage to the airplane, and reduced control of the airplane.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Required Actions

(1) For affected M601F model turboprop engines, before the propeller shaft accumulates 12,000 flight hours (FHs) since first installation on an engine, or before accumulating 350 FHs after the effective date of this AD, whichever occurs later, remove the propeller shaft and replace with a part eligible for installation.

(2) For affected M601D-11, M601E-11, M601E-11A, M601E-11AS, and M601E-11S model turboprop engines:

(i) Within 100 FHs after the effective date of this AD, calculate the total time since new of the propeller shaft in accordance with the Accomplishment Instructions, paragraph 2.2.1, of the ASB.

(ii) Remove the propeller shaft prior to reaching its applicable life limit and replace with a part eligible for installation in accordance with the Accomplishment Instructions, paragraph 2.2.2., of the ASB.

(h) Definitions

(1) For the purpose of this AD, a “part eligible for installation” on M601F, M601E-11, and M601E-11A model turboprop engines is a propeller shaft identified in the Configuration Description, paragraph 1.5, Table 1, of the ASB, as applicable to the engine model, with a calculated life that has not exceeded the applicable life limit.

(2) For the purpose of this AD, a “part eligible for installation” on M601D-11 model turboprop engines is a propeller shaft with P/N M601-6081.2, P/N M601-6081.4, or P/N M601-6081.5, with a calculated life that has not exceeded the applicable life limit.

(3) For the purpose of this AD, a “part eligible for installation” on M601E-11AS and M601E-11S model turboprop engines is a propeller shaft with P/N M601-6081.2, P/N M601-6081.5, or P/N M601-6081.6, with a calculated life that has not exceeded the applicable life limit.

(i) Alternative Methods of Compliance (AMOCs)

(1) The Manager, ECO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in paragraph (j)(1) of this AD and email to: ANE-AD-AMOC@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(j) Related Information

(1) For more information about this AD, contact Barbara Caufield, Aviation Safety Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA 01803; phone: (781) 238-7146; email: barbara.caufield@faa.gov.

(2) Refer to European Union Aviation Safety Agency (EASA) AD 2021-0154,

dated July 1, 2021, for more information. You may examine the EASA AD in the AD docket at <https://www.regulations.gov> by searching for and locating it in Docket No. FAA-2022-0385.

(3) For service information identified in this AD, contact GE Aviation Czech s.r.o., Beranových 65, 199 02 Praha 9, Letňany, Czech Republic; phone: +420 222 538 111. You may view this reference information at the FAA, Airworthiness Products Section, 1200 District Avenue, Burlington, MA 01803. For information on the availability of this material at the FAA, call (817) 222-5110.

Issued on March 25, 2022.

Lance T. Gant, Director,
Compliance & Airworthiness Division,
Aircraft Certification Service.

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